APRIL/MAY 2024

CABT42/FABT42 — MOLECULAR GENETICS

Shanmuga Industries Arts & Science College T.V.Malai

Time : Three hours Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is meant by Central dogma?
2. Summarise about the type of cell used in Griffith experiment.
3. What is DNA Repair?
4. Explain the term DNA Replication.
5. What is mutation?
6. Summarize about radiations which can cause mutation.
7. What is F^+ cell?
8. Define transformation.
9. Define the term Operon.
10. What is Regulatory site?

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Outline the experiment carried out by Avery McLeod and Mccarty to prove DNA as the genetic material.

Or

(b) Examine RNA as genetic material.

12. (a) Organize the Mechanism of Replication.

Or

(b) Analyze about direct DNA repair.

13. (a) Identify and explain the types of point mutation.

Or

(b) Examine about spontaneous mutation.

14. (a) Explain the process of conjugation in bacteria.

Or

(b) Analyze about Hfr gene transfer.

15. (a) Identify the Elements in Drosophila.

Or

(b) Examine the structural organization of Trp operon.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the structure of DNA.

17. Elaborate on the holiday model of recombination.

18. Discuss about Chromosomal Abnormalities.

19. Discuss the mechanism of generalized transduction.

20. Discuss the regulation of gene expression in lac operon.

Shanmuga Industries Arts & Science College T.V.Malai